CW#82: Trig Application Problems!

Geometry

Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP:\_\_\_\_\_

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| Objective | * You will be able to determine which trig function to use given the information provided. * You will be able to draw and label a right triangle given a trig ratio |
| Criteria for Success | Did you…   * Correctly identify the sides (opposite, adjacent, hypotenuse)? * Use the correct trig ratio? * Analyze your answer: Does it make sense? Did you answer the question completely? |

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| 1. Write the acronym to remember the trig ratios: | | |
| 1. Write out the three trig ratios in the boxes below | | |
| = | = | = |
| SOLVE FOR X Find the length missing side labeled as *x*. | | |
| 1. ../../../Desktop/Screen%20Shot%202016-02-15%20at%208.31.18%20AM.png | 1. ../../../Desktop/Screen%20Shot%202016-02-15%20at%208.31.22%20AM.png | 1. ../../../Desktop/Screen%20Shot%202016-02-15%20at%208.31.25%20AM.png |
| 1. ../../../Desktop/Screen%20Shot%202016-02-15%20at%208.31.29%20AM.png | 1. ../../../Desktop/Screen%20Shot%202016-02-15%20at%208.31.32%20AM.png | 1. ../../../Desktop/Screen%20Shot%202016-02-15%20at%208.31.35%20AM.png |

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| TRIG APPLICATION Based on the given information, use trig to solve each problem. Remember, the trig function you choose will depend on what you’re given and what you’re looking for! | |
| 1. You are traveling along a stretch of highway that has a slight grade with an angle of inclination of 5°. After traveling for 4 miles, what is the vertical v and horizontal h change in feet? (1 mi = 5280 ft). Round your answer to the nearest foot. | 1. You lean a 16 foot ladder against the wall. If the ladder makes an angle of 70° with the ground, how far away from the wall is the base of the ladder? Round to the nearest tenth of a foot |
| 1. A staircase has an angle of eleveation of 28° and covers a total distance of 17ft. Find the height h of the staircase to the nearest foot. | 1. Find the perimeter of the triangle. Round to the nearest tenth. |
| 1. To calculate the height h of a flagpole, you move 22 feet from the base and record the angle of elevation to the top to be 65°. Find the flagpole's height to the nearest foot. | 1. A wire is tied from the top of a 50 foot pole to a point on the ground, 15 feet away from the pole. If , what is the length of the wire? |
| 1. A lamppost, shown below, casts a 10ft. shadow when the sun is at a 60° angle with the ground. What is the height of the lamppost? | 1. If in a right triangle  and , then x = ? (Draw out & justify your answer) |

Extra ACT Style Problems

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| 1. ../../../../Math%20Department/Lunch%20ACT%20Prep/Week%2021/ACT%2057:56%20Problems/Low_Right%20Trig.png | 1. Macintosh HD:Users:rmitrovich:Dropbox:Math Department:Lunch ACT Prep:Week 20:ACT23/24 Problems:Screen Shot 2016-01-23 at 9.16.15 AM.png |
| Macintosh HD:Users:rmitrovich:Desktop:Screen Shot 2016-01-10 at 10.24.31 PM.png | ../../../../Math%20Department/Lunch%20ACT%20Prep/Week%2022/ACT23:24%20Problems/Screen%20Shot%202016-01-23%20at%209.10.15%20AM. |
| 1. ACT%2057:56%20Problems/Low%20High%20_%20Angle%20Word.png | 1. Challenge Problem:   ../Week%2021/ACT%2057:56%20Problems/High%20_%20Right%20Trig.png |